CLAIMS:

1. A method for positioning pulses, comprising the steps of:

specifying pulse positioning over time in accordance with a time layout about a time reference,

generating a time-hopping code; and

mapping pulses over the time layout based on the time hopping code, wherein a pulse can be placed at any location within said time layout.

2. The method of claim 1, wherein said time reference is a time position of a pulse.

3. The method of claim 2, wherein said pulse is a preceding pulse.

4. The method of claim 2, wherein said pulse is a succeeding pulse.

5. The method of claim 1, wherein said time reference is at least one of a fixed and a non-fixed time reference.

6. The method of claim 1, wherein said time hopping code has a predefined property.

7. The method of claim 6, wherein the pre-defined property is at least one of spectral properties and correlation properties.

8. The method of claim 7, wherein the correlation property comprises at least one of autocorrelation properties and cross-correlation properties.

9. The method of claim 1, wherein said time-hopping code comprises at least one of a hyperbolic congruential code, quadratic congruential code, linear congruential code, Welch-Costas array code, Golomb-Costas array code, pseudorandom code, chaotic code, and Optimal Golomb Ruler code.

10. The method of claim 1, wherein the time layout is comprised of a plurality of frames.

11. The me[redacted]of claim 10, wherein said frame is c[redacted]sed of a plurality of sub-frames.

12. The method of claim 11, wherein said sub-frame is comprised of a plurality of smaller components.

13. The method of claim 12, wherein said smaller components are further subdivided.

14. The method claim 1, wherein the time layout is a delta value layout.

15. An impulse transmission system comprising:

a Time Modulated Ultra Wideband Transmitter;

a Time Modulated Ultra Wideband Receiver; and

said Time Modulated Ultra Wideband Transmitter and said Time Modulated Ultra Wideband Receiver employ a time-hopping code, wherein said code specifies pulse positioning over time in accordance with a time layout about a time reference, and a pulse can be placed at any location within said time layout.

16. The impulse transmission system of claim 15, wherein said time reference is a time position of a pulse.

17. The impulse transmission system of claim 16, wherein said pulse is a preceding pulse.

18. The impulse transmission system of claim 16, wherein said pulse is a succeeding pulse.

19. The impulse transmission system of claim 15, wherein said time reference is at least one of a fixed and a non-fixed time reference.

20. The impulse transmission system of claim 15, wherein said time hopping code has a predefined property.

21. The impulse transmission system of claim 20, wherein the pre-defined property is at least one of spectral properties and correlation properties.

22. The impulse transmission system of claim 21, wherein the correlation property comprises at least one of autocorrelation properties and cross-correlation properties.

23. The impulse transmission system of claim 15, wherein said time-hopping code comprises at least one of a hyperbolic congruential code, quadratic congruential code, linear congruential code, Welch-Costas array code, Golomb-Costas array code, pseudorandom code, chaotic code, and Optimal Golomb Ruler code.

24. The impulse transmission system of claim 15, wherein the time layout is comprised of a plurality of frames.

25. The impulse transmission system of claim 24, wherein said frame is comprised of a plurality of sub-frames.

26. The impulse transmission system of claim 25, wherein said sub-frame is comprised of a plurality of smaller components.

27. The impulse transmission system of claim 26, wherein said smaller components are further subdivided.

28. The impulse transmission system claim 15, wherein the time layout is a delta alue layout.